



GREASE HAULER TRAINING

**Hampton Roads Planning District Commission
REGIONAL FOG PROGRAM**

FOG CERTIFICATION

www.HRFOG.com

OBJECTIVE

- To provide education and awareness to Grease Haulers about Fats, Oils and Grease (FOG), the background and purpose of the local FOG Programs and to comply with the Regional Consent Order for proper maintenance of Grease Control Devices (GCDs).
- This training provides the required certification with the regional FOG program and is valid for (3) three years.



BACKGROUND

- In 2007, Special Orders of Consent were entered into between Virginia Department of Environmental Quality (DEQ), HRSD and area localities to resolve sanitary sewer overflows (SSOs).
- Fats, Oils and Grease (FOG) contribute to two-thirds of all SSOs in our region.
- Management, Operations and Maintenance (MOM) Programs were established to efficiently resolve SSOs.
- FOG programs were developed with MOM principles to monitor and regulate FOG waste.
- Food service establishments (FSEs) and grease hauler certification programs were established to teach FSE employees and grease haulers about the ordinances and their responsibilities.

WHAT IS FOG?



- Fats, Oils, and Grease
- Any combination of animal fats and/or vegetable oils that are used to prepare food, or are naturally found in food. May also be referred to as Brown Grease.

FOG SOURCES IN AN FSE

- Fatty Foods
- Cooking Oils
- Food Scraps
- Utensils, Dinnerware
- Salad Dressings
- Deep Fried Foods
- Dairy Products
- Batters, Icing
- Ice Cream, Frozen Yogurt



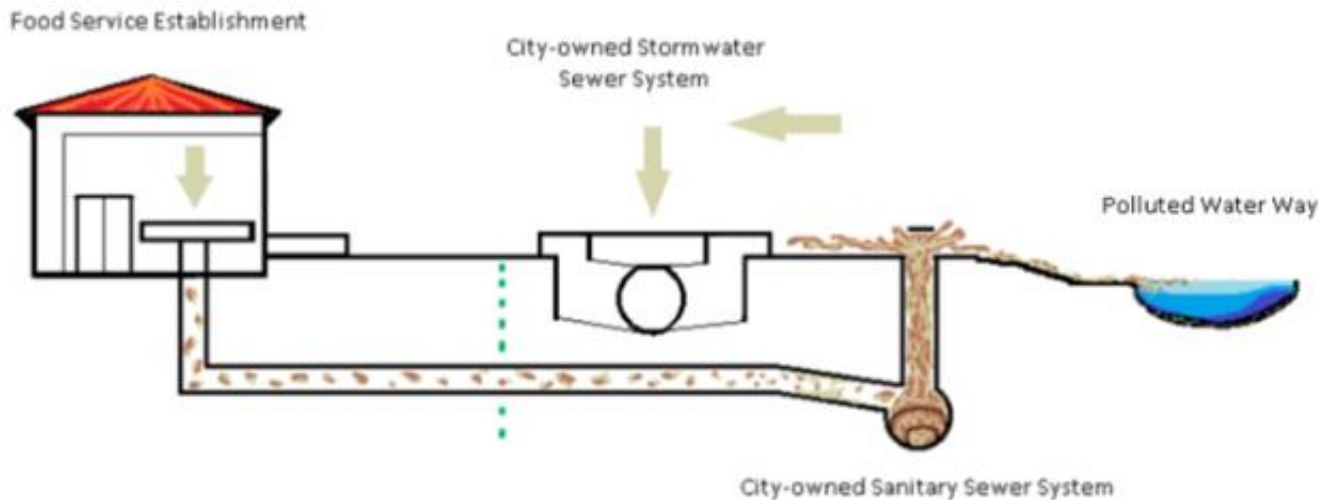
THE FOG PROBLEM



- When discharged into sewer lines, FOG accumulates and sticks to pipe walls causing blockages and backups in the sanitary sewer system.
- Significant sources of FOG are: residential homes, high-density housing complexes, and commercial kitchens in FSEs.

SANITARY SEWER OVERFLOWS (SSOs)

- Sanitary Sewer Overflows are violations of state and federal law and are associated with civil penalties.
- SSOs pose a threat to the environment and public health.



YELLOW GREASE (USED COOKING OIL)

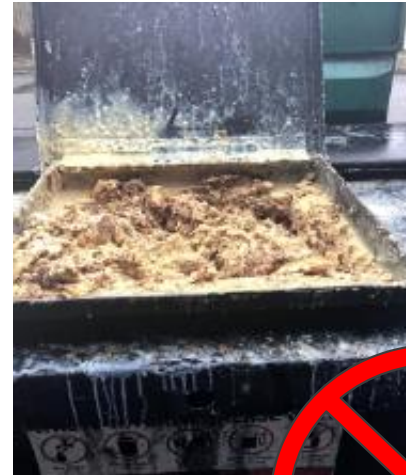


- Used cooking oil should be collected and stored in indoor and/or outdoor renderable yellow grease containers clearly labeled with the hauler's name.
- Containers should be stored away from storm drain openings and should remain covered with a securely-fitting lid to avoid spills or overflow.
- Routinely pick up yellow grease and promptly replace bins in poor condition.
- If a spill occurs it must be cleaned immediately. If you suspect misuse of the yellow grease bin, please report it to the local FOG Program Manager.



YELLOW GREASE (USED COOKING OIL)

- Small Spills: apply absorbent material (kitty litter, pads, or socks) on the spill area and allow to sit for a period of time. Then, sweep carefully to avoid generating dust. Collect all materials and residues and place them in a waste container/bag and dispose in the dumpster.
- When cleaning spills that require a degreaser and/or pressure washer, **DO NOT** allow oil or the cleanup material/wash water to enter the storm drain or sanitary sewer system. It may be necessary to use absorbent socks around the storm drain openings to prevent this from happening.



GENERAL GCD INFORMATION



Hampton Roads localities have or are developing ordinances that require FSEs to maintain GCDs and dispose of FOG waste properly.



Any person cleaning GCDs must be certified under the HR FOG Program. Cleaning of GCDs by FSE employees must be approved by the local FOG Program Manager.



Any person pumping, collecting and hauling must dispose of FOG waste at an approved disposal site and have all applicable permits.



Most localities require that a GCD be sized and selected in accordance with the Hampton Roads Regional Technical Standards for Grease Control Devices.



The FSE is required to keep GCD cleaning/maintenance records on site for three (3) years. Documentation requirements vary based on the type of GCD on site.

GREASE CONTROL DEVICE (GCD) TYPES



Gravity Grease Interceptor (GGI) -
outside, concrete



Hydro-mechanical Grease Interceptor (HGI)
- In floor or under a sink



Automatic Grease Removal Device –
plugged in



High Capacity Hydro-mechanical Grease Interceptor

- GCDs are the last line of defense against FOG discharge.
- GCDs are passive devices that use retention time and/or gravity to separate FOG and solids from kitchen wastewater.
- All GCDs must be installed, registered and regularly maintained according to the FSE's local FOG Program.

GRAVITY GREASE INTERCEPTOR (GGI)



- Gravity Grease Interceptors (GGIs) are traditionally made from concrete with sizes commonly ranging from 250 - 2,000 gallons.
- Because there is no evidence to support their effectiveness for FOG retention, new installations may be discontinued in some localities.
- These devices require a large footprint for installation and are typically located outside of an FSE in the ground.
- If you suspect the GGI needs to be cleaned more often or can be cleaned less often, have your customer reach out to their local FOG Program Manager.

HYDRO-MECHANICAL INTERCEPTOR (HGI)



- HGIs (often referred to as “legacy” units) were previously referred to as “grease traps.” They are traditionally made of acid-resistant enamel or epoxy-coated metal.
- These devices are tested and rated to a flow rate in gallons per minute (gpm) and a grease capacity in pounds. Typically, lbs of grease retention is double its flow rate (i.e. 25gpm / 50lbs).
- They are typically approved for inside installation and are usually found underneath a 3-compartment sink or in the floor of a commercial kitchen. All HGIs require a flow control device.
- If you suspect an HGI needs to be cleaned more often or can be cleaned less often, have your customer reach out to their local FOG Program Manager.

HYDRO-MECHANICAL INTERCEPTOR rated for HIGH GREASE CAPACITY RETENTION



- These devices differ from “legacy” HGIs. They are typically made from high-grade durable plastic and are tested and certified to retain a higher amount of grease.
- These devices come in a variety of sizes in gpm and pounds of grease retention and can be rated for inside and outside installation.
- HGIs must be cleaned by a certified grease hauler, unless otherwise approved. HGI cleaning frequency will be determined by the local FOG Program Manager.
- If you suspect an HGI needs to be cleaned more often or can be cleaned less often, have your customer reach out to their local FOG Program Manager.

AUTOMATIC GREASE REMOVAL DEVICE (AGRD)



- AGRDs are active, automatic devices that separate and remove FOG by an electromechanical apparatus.
- These devices are typically rated for inside installation of a commercial kitchen.
- AGRDs must be plugged into an electrical supply at all times.
- If you suspect the AGRD needs to be cleaned more often or can be cleaned less often, have your customer reach out to their local FOG Program Manager.

CLEANING GREASE CONTROL DEVICES

Gravity Grease Interceptor (GGI)	Must be cleaned by a certified grease hauler. Typical cleaning is every 90 days or when 25% full of FOG and solids, whichever occurs first. Cleaning frequency is determined by the local FOG Program Manager.
“Legacy” Hydro-mechanical Grease Interceptor (HGI)	Must be cleaned by a certified grease hauler, unless otherwise approved. HGI cleaning frequency is based on the FSEs grease factor and determined only by the local FOG Program Manager and must be cleaned at a minimum when 25% full of FOG waste and solids.
Hydro-mechanical Interceptor rated for High Grease Capacity Retention	Must be cleaned by a certified grease hauler, unless otherwise approved. HGI cleaning frequency will be determined by the local FOG program manager.
Automatic Grease Removal Device	Must be cleaned as recommended by the manufacturer with approval from the local FOG Program Managers. Most require daily emptying of the external grease bucket and internal solid basket.

THE ISSUE WITH CONCRETE, EPOXY OR ENAMEL COATED GCDS



Wastewater becomes acidic and eats away at metal and concrete. Once the epoxy or enamel coating is chipped, the corrosion process begins.

GENERAL CLEANING PROCEDURES



Decanting (discharging of the removed waste back into the interceptor) procedures are prohibited throughout the region.



GCDs may have two or more compartments and each side must be pumped and cleaned thoroughly; if a compartment is not accessible, notify the FSE that there is a problem.



Once GCD is completely emptied, hydro-jetting services may be performed (semi-annual service is recommended).



Line jetting from the FSE to the GCD can be used to remove and collect FOG buildup as a preventative maintenance measure. *(Be sure to collect contents from line jetting so it does not enter the sanitary sewer system.)*

GREASE HAULER REQUIREMENTS FOR CLEANING GCDS



In most localities, grease haulers must have the following:

- Proper permits for waste hauling with the Virginia Department of Health and Virginia DEQ
- A permit from an approved disposal facility (i.e. HRSD)
- A certificate from the HR FOG Program (www.hrfog.com)

To service an FSE in Hampton Roads, the grease hauler must have:

- HR FOG Program certification ID number
- FOG removal and GCD cleaning equipment
- Disposal site information
- Manifest documentation

***Check with your local FOG Program for specific grease hauler requirements**

GREASE HAULER SERVICE BEST MANAGEMENT PRACTICES

- The hauler and FSE should coordinate service dates and time for GCD cleanings.
- The hauler and FSE should maintain open communication regarding the GCD and GCD maintenance, including:
 - GCD structural condition and capacity
 - Anticipation of seasonal changes that may impact cleaning frequency
 - Compliance with proper cleaning frequency as determined by the local FOG Program Manager

Check with local FOG program managers for specific requirements.

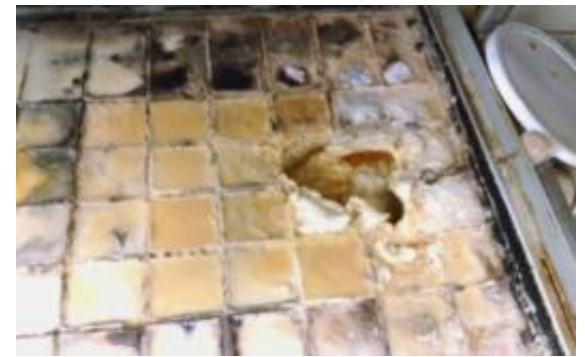


GCD SERVICE BEST MANAGEMENT PRACTICES



Use a sludge judge or other appropriate measuring tool to determine amount of FOG waste and settled solids prior to cleaning any type of GCD.

If greater than 25% FOG and settled solids, notify the FSE that the cleaning must be scheduled more frequently.



SLUDGE JUDGE MEASUREMENTS FOR GCDs

The measurements in this example are:

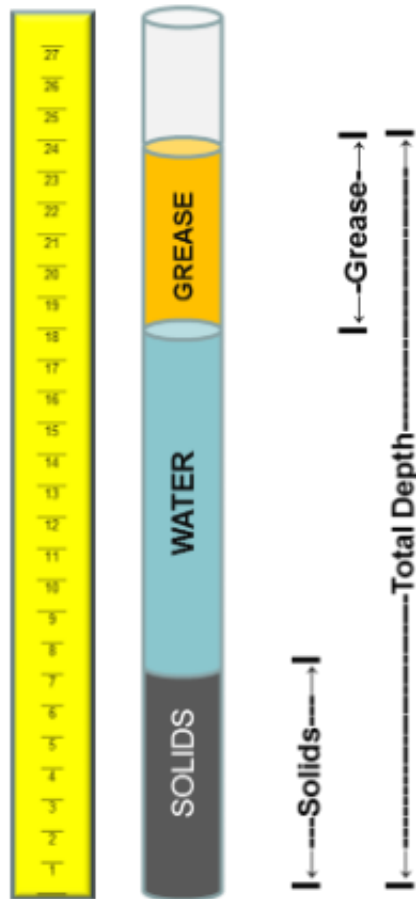
Solids - 7"

Grease - 6"

Total Depth - 24"

For GGLs, see local FOG Program Manager for guidance on taking proper sludge judge measurements.

**These numbers are only an example; you will have to measure each time a GCD is cleaned.*



- Document the following three measurements (in inches) on the service ticket to be left with the FSE.
 - Solids
 - Grease
 - Total Depth
- Accuracy is important and will be spot checked.
- Record sludge judge readings (as illustrated) and a condition report on every service ticket.

SLUDGE JUDGE MEASUREMENTS FOR GCDs

Calculating FOG %

The measurements in this example are:

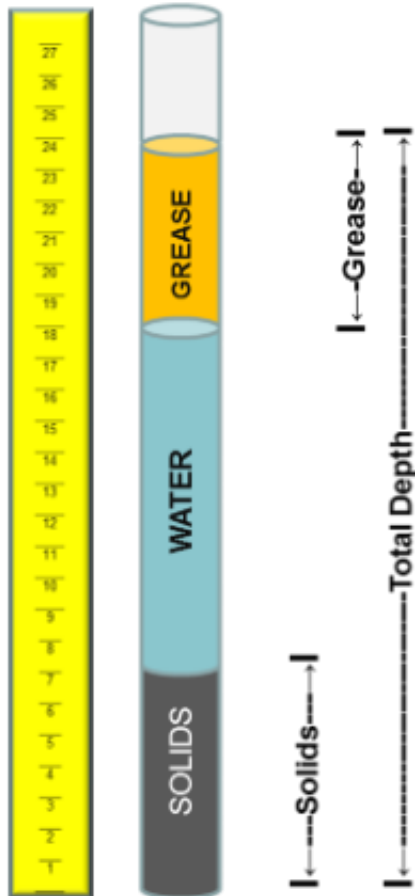
Solids - 7"

Grease - 6"

Total Depth - 24"

For GGI, see local FOG Program Manager for guidance on taking proper sludge judge measurements.

**These numbers are only an example; you will have to measure each time a GCD is cleaned.*



After measuring, use the following formula to calculate the FOG %

$(\text{Solids} + \text{Grease}) / \text{Total Depth} \times 100$

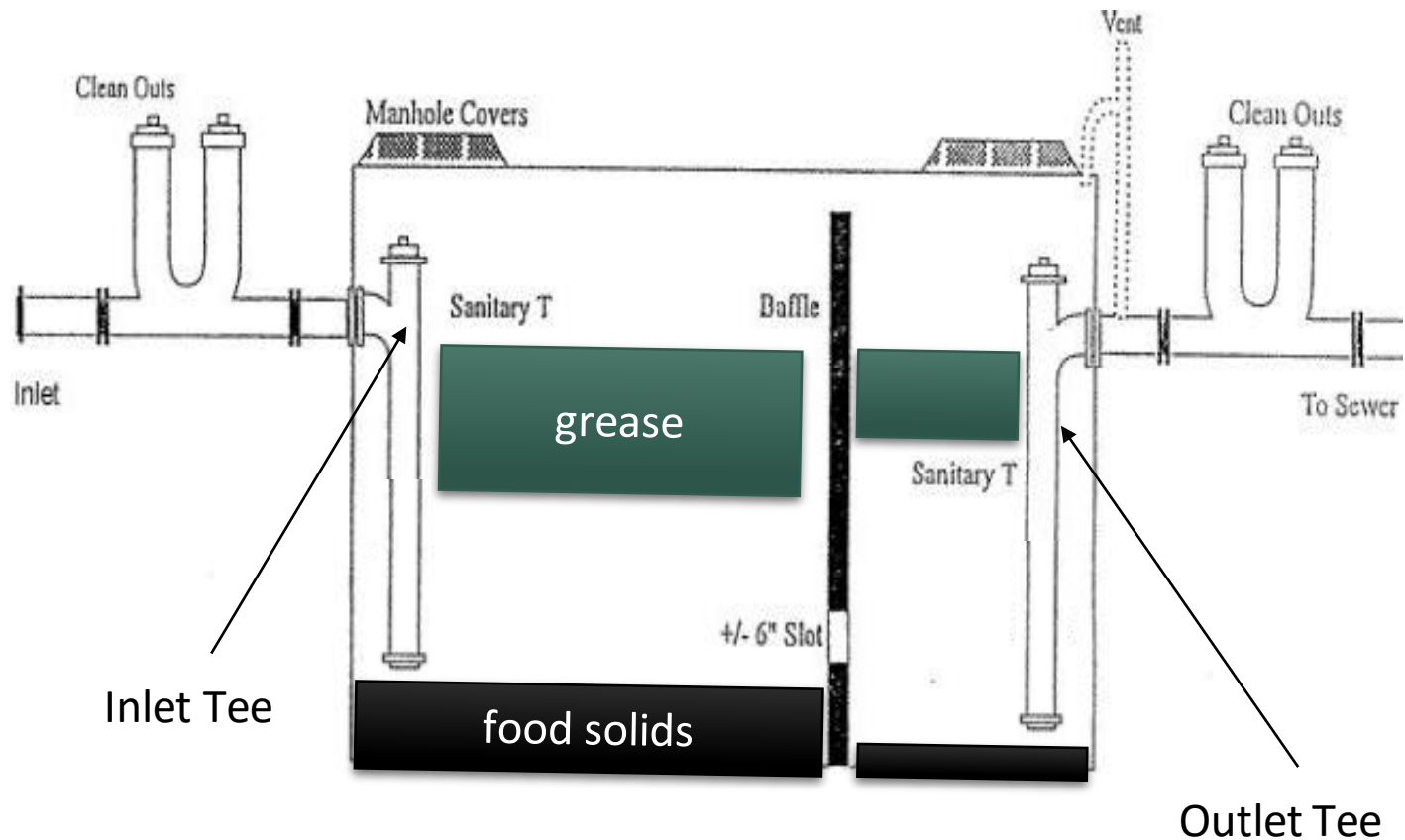
$$(7 + 6) / 24 \times 100 = \mathbf{54.16\%}$$

**54% exceeds the 25% rule for FOG accumulation and would require more frequent cleaning if not a high capacity HGI. If high capacity HGI, compare depths to manufacturer-approved depths*

GRAVITY GREASE INTERCEPTOR (GGI)

Pumping/ Cleaning and Inspection Procedures

Generic Sample Gravity Grease Interceptor



GRAVITY GREASE INTERCEPTOR (GGI)

Pumping, Cleaning and Inspection Procedures



Pumping the Gravity Grease Interceptor:

- Remove lid(s). There should be an inlet and outlet side.
- Pump the entire contents out of the GGI into an approved disposal container/truck. *Decanting is prohibited throughout the region.*
- Scrape or pressure wash interior walls of the interceptor.
- Perform inspection of GGI.

GRAVITY GREASE INTERCEPTOR (GGI)

Pumping, Cleaning and Inspection Procedures



Performing the Gravity Grease Interceptor Inspection:

- Locate inlet and outlet Tees and ensure proper depth
- Note any visible holes or leaks in tank
- Visually check condition of baffle(s) and location of baffle opening
- Locate and note condition of all manhole covers, lids, and cleanout covers
- Record any findings on cleaning manifest and notify FSE management of any maintenance issues

GRAVITY GREASE INTERCEPTOR (GGI)

Pumping/ Cleaning and Inspection Procedures



After Gravity Grease Interceptor Cleaning...

- If possible, notify FSE when cleaning is complete, allowing them to perform a visual inspection and sign the manifest.
- Replace lid(s).
- Leave a copy of the signed manifest with FSE.
- Dispose of FOG waste at an approved disposal facility.

GRAVITY GREASE INTERCEPTOR (GGI) BAFFLE FAILURE



GRAVITY GREASE INTERCEPTOR (GGI) BAFFLE PASS



Interceptor Baffle cleared



baffle wall

03/14/2003

GRAVITY GREASE INTERCEPTOR (GGI) TEE FAILURE



GRAVITY GREASE INTERCEPTOR (GGI) TEE PASS



OTHER INTERCEPTOR FAILURES MISSING BOTTOM



HYDRO-MECHANICAL INTERCEPTORS (HGI)

Pumping, Cleaning and Inspection Procedures

1. Carefully remove the lid, observing installation of internal parts to ensure proper reinstallation after cleaning.
1. Measure & document contents of HGI in inches (total fluid depth, grease, and solids)
1. Pump the entire contents out of the HGI into an approved disposal container/truck.
Decanting is prohibited throughout the region.
1. Scrape all inside walls, baffles, screens and gaskets. Do NOT use hot water, degreasers, or soaps to clean interior of HGI.
1. Inspect and note condition of tank, baffle, gasket and all removable parts. Inform FSE of any needed repairs and allow FSE to inspect the HGI.
1. Make sure HGI is properly reassembled and lid properly tightened.
1. Leave a copy of the signed manifest with FSE.
1. Dispose of FOG waste at an approved disposal facility.

IMPORTANT REMINDER

It is **ILLEGAL** to dump GCD or kitchen waste into the sanitary sewer system (toilets, cleanouts, manholes, etc.), storm drains, ponds, or any outdoor areas.

GCD MAINTENANCE RECORDS



Hauler Information

- Driver information (printed name, signature, and HR FOG Program hauler certification number)
- Type of waste (details on mixed waste)
- Anticipated disposal site information



FSE Information

Name & Address of
FSE



Sludge Judge Measurements

Including total
depth, grease and
solids
measurements,
not just total
volume of FOG
removed



Condition Report

Tees, baffle
wall, overall
tank condition.

FSE and grease haulers must retain maintenance records for three (3) years.

GCD HAULERS TRAINING HIGHLIGHTS



Proper documentation and accurate measurements are critical to customer service.

Your clients will not pass their FOG Inspections without your drivers' proper documentation.



GCDs shall be completely cleaned with all contents removed entirely.



All records shall be retained for a minimum of 3 years.



Following appropriate cleaning schedules and procedures help to eliminate FOG discharge into the sanitary sewer system.



NEVER use hot water, acids, caustics, solvents, enzymes, or emulsifying agents in place of cleaning GCDs.



Discharging GCD contents into the sanitary sewer or stormwater system is prohibited.



For more information regarding the Regional FOG program, contact:

Hampton Roads Planning District Commission

Regional FOG Program

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FOG CERTIFICATION

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